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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,203	11/02/2000	Hsin-Hsin Chou	56073USA5A.002	4516

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EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 02/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/705,203

Applicant(s)

CHOU ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 11-17 is/are rejected.
- 7) ☒ Claim(s) 4 and 8-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "the view 222" on page 7, line 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to for the following informality.

Applicant is reminded of the proper language and format for an abstract of the disclosure. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The phrase "are disclosed that include" is recited on page 36, line 5 in the Abstract. This objection may be obviated by deleting the phrase "are disclosed that include" on page 36, line 5, and inserting --including--.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikx et al. (WO 98/17083) in view of Stevens et al. (US Patent 5,910,706). Horikx et al. shows an information display (Page 1, lines 6-7) comprising: a plurality of light emitting devices (LEDs) (Page 6, lines 25-26), such as electroluminescent (EL) (Page 1, line 6), organic EL (Page 1, lines 13-20), or phosphor-based LEDs, emitting light through a transmissive layer (Fig. 1C, #2) and a frustrator element comprising a volume diffuser with particles (Fig. 1C, #8). However, Horikx et al. does not seem to specifically disclose independent LEDs and an antireflective element.

Stevens et al. shows independent LEDs (Fig. 9a and 9b) and an antireflective element (Fig. 3f, #16).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have independent LEDs and an antireflective element of Stevens et al. with the device of Horikx et al., which is explained with motivation as follows.

Regarding independent LEDs, one would be motivated to have pixilated control of the display to change the information within a portion of the display.

Regarding an antireflective element, one would be motivated to enhance light transmission as shown by Steven et al. (Claim 7).

4. Claims 5-7, 11, 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horikx et al. in view of Stevens et al. as applied to claim 1 above, and further in view of Lester (US Patent 6,091,085). Horikx et al. in view of Stevens et al. suggests a device as recited

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above. However, Horikx et al. does not seem to specifically disclose a diffusive surface and prismatic microstructures.

Lester teaches a diffusive surface (col. 1, lines 45-54) and prismatic microstructures (col. 1, lines 37-44).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the diffusive surface and prismatic microstructures of Lester with the suggested device of Horikx et al. in view of Stevens et al., since one would be motivated to increase extraction efficiency as shown by Lester (col. 1, lines 37-54).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horikx et al. in view of Stevens et al. as applied to claim 1 above, and further in view of Stevens et al. (EP 0 814 642 A1). Horikx et al. in view of Stevens et al. (US) suggests a device as recited above. However, Horikx et al. does not seem to specifically disclose phosphor-based LEDs.

Stevens et al. (EP) teaches phosphor-based LED (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the prismatic microstructures and phosphor-based LEDs of Stevens et al. (EP) with the suggested device of Horikx et al. in view of Stevens et al. (US), since phosphor-based LEDs and EL LEDs are considered equivalent structures as shown by Stevens et al. (EP) (col. 1, lines 10-20). One would be motivated to use phosphor-based LEDs for use in ultra high resolution miniature display systems as shown by Stevens et al. (EP) (col. 1, lines 3-9).

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Allowable Subject Matter

6. Claims 4 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, prior art does not specifically disclose or fairly suggest a volume diffuser comprising voids, in combination with all the limitations in the claim, intervening claim, and base claim.

Regarding claim 8, prior art does not specifically disclose or fairly suggest a volume diffuser further comprising louvers disposed to inhibit cross-talk of light between separate light emitting devices, in combination with all the limitations in the claim, intervening claim, and base claim.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk
February 10, 2002



ROBERT H. KIM
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TECHNOLOGY CENTER 2800